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PATENT COOPERATION TREATY
PCT
INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 1237.P002PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).	
International Application No. PCT/SG2003/000076	International Filing Date (day/month/year) 11 April 2003	Priority Date (day/month/year) 12 September 2002
International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ E06B 3/70, 3/96		
Applicant MALAYSIA WOODWORKING (PTE) LTD et al.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 3 sheets, including this cover sheet.
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
These annexes consist of a total of 4 sheet(s).

EPO - DG 1

- This report contains indications relating to the following items:

23. 07. 2004

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

(36)

Date of submission of the demand 17 March 2004	Date of completion of the report 11 June 2004
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer L. DESECAR Telephone No. (02) 6283 2381

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/SG2003/000076

I. Basis of the report**1. With regard to the elements of the international application:***

- ☐ the international application as originally filed.
- ☒ the description, pages 1-12 as originally filed,
pages , filed with the demand,
pages , received on with the letter of
- ☒ the claims, pages , as originally filed,
pages , as amended (together with any statement) under Article 19,
pages , filed with the demand,
pages 13-16 received on 24 May 2004 with the letter of 24 May 2004
- ☒ the drawings, pages 1/7-7/7 as originally filed,
pages , filed with the demand,
pages , received on with the letter of
- ☐ the sequence listing part of the description:
pages , as originally filed
pages , filed with the demand
pages , received on with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. ☒ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☒ the claim, Nos. 3A
- ☐ the drawings, sheets/fig.

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/SG2003/000076

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims 1-20	YES
	Claims	NO
Inventive step (IS)	Claims 1-20	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-20	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

Claims 1-20 meet the criteria set out in the PCT Article 3(2)-(4), because none of the prior art documents teaches or fairly suggests a method and an apparatus for assembling a 2-piece skin door comprising a bottom skin and a top skin wherein each of the bottom and top skins' longitudinal edges have been bent and folded to complementarily hem each other in an interlocking manner to form a seam, the method including holding the bottom skin in an upwardly open pan manner to form the full thickness of the door edge and the ends of the bent portion is folded outwardly to form a downward flange which is flush with the outer door edge, holding the top skin in an inverted pan manner wherein its folded and hemmed edges are bent downwardly to form less than the full thickness of the door edge and the ends of the bent portion is folded inwardly to form an upward flange aligned with the corresponding edges of the bottom skin, and pushing the top skin to insert said top skin's folded edge into the bottom skin's corresponding folded edge to form said interlocking seam and thus the door edge, wherein the top skin's longitudinal edges form about half the thickness of the door edge.

CLAIMS

- 5 1. A method for assembling a 2-piece skin door comprising
a bottom skin and a top skin wherein each of the bottom and
top skins' longitudinal edges have been bent and folded to
complementarily hem each other in an interlocking manner to
form a seam, the method including:
- 10 - holding the bottom skin in an upwardly open pan manner
to form the full thickness of the door edge and the
ends of the bent portion is folded outwardly to form a
downward flange which is flush with the outer door
edge;
- 15 - holding the top skin in an inverted pan manner wherein
its folded and hemmed edges are bent downwardly to
form less than the full thickness of the door edge and
the ends of the bent portion is folded inwardly to
form an upward flange aligned with the corresponding
edges of the bottom skin; and
- 20 - pushing the top skin to insert said top skin's folded
edge into the bottom skin's corresponding folded edge
to form said interlocking seam and thus the door edge;
wherein
- 25 the top skin's longitudinal edges form about half the
thickness of the door edge.
2. A method according to Claim 1 wherein the bottom skin
30 is held securely on a substantially planar surface with at
least one securing means; the at least one securing means
fastening onto at least one protruding plate welded onto
the inside of the bottom skin and further provided with
eyelets from the rail edges of said skin for hook means to
35 fasten thereunto.
3. A method according to Claim 1 wherein the top skin is
provided with at least a protrusion from the rail edge of
40 said skin and pulling means is provided to fasten onto said
protrusion and to pull said skin in alignment towards the
bottom skin.
4. A method according to Claim 3 wherein the protrusion
45 is a protruding plate welded onto the inside of the top
skin and provided with eyelets for hook means to fasten
thereunto.

CLAIMS

- 5 1. A method for assembling a 2-piece skin door comprising a bottom skin and a top skin wherein each of the bottom and top skins' longitudinal edges have been bent and folded to complementarily hem each other in an interlocking manner to form a seam, the method including:
- 10 - holding the bottom skin in an upwardly open pan manner;
- holding the top skin in an inverted pan manner wherein its folded and hemmed edges are aligned with the corresponding edges of the bottom skin; and
- pushing the top skin to insert said top skin's folded edge
15 into the bottom skin's corresponding folded edge to form said interlocking seam.
2. A method according to Claim 1 wherein:
- the bottom skin's longitudinally edges are each bent
20 upwardly to form the full thickness of the door edge and the ends of the bent portion is folded outwardly to form an downward flange which is flush with the outer door edge; and
- the top skin's longitudinal edges are bent downwardly to form less than the full thickness of the door edge and the
25 ends of the bent portion is folded inwardly to form an upward flange to complementarily interlock with the bottom skin's folded ends to form the door edge.
3. A method according to Claim 2 wherein the top skin's
30 longitudinal edges are bent downwardly to form about half the thickness of the door edge.

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3A. A method according to Claim 1 wherein the interlocking seams are provided at diagonally-opposing edges of the assembled door comprising of the top and bottom skins.

4. A method according to Claim 1 wherein the bottom skin is
5 held securely on a substantially planar surface with securing means.

5. A method according to Claim 4 wherein the securing means secure the bottom skin by fastening onto at least a
10 protrusion from the rail edges of said skin.

6. A method according to Claim 5 wherein the protrusion is a protruding plate welded onto the inside of the bottom skin and provided with eyelets for hook means to fasten thereunto.
15

7. A method according to Claim 1 wherein the top skin is provided with at least a protrusion from the rail edge of said skin and pulling means is provided to fasten onto said protrusion and to pull said skin in alignment
20 towards the bottom skin.

8. A method according to Claim 7 wherein the protrusion is a protruding plate welded onto the inside of the top skin and provided with eyelets for hook means to fasten thereunto.
25

9. A method according to any one of Claims 7 and 8 wherein the pulling means comprises at least a winch capable of winding a cable attached to said hook means to pull said top skin.
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10. A method according to any one of Claims 7 to 9 wherein the pulling means comprises at least a winch capable of winding a cable attached to a bar arranged to push the top skin in alignment towards the bottom skin.

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11. A method according to Claims 9 and 10 wherein a first winch pulling the top skin is employed in conjunction with a second winch pulling a bar to push said top skin.

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12. A method according to Claim 11 wherein the second winch is mounted distal to the full length of the bottom skin underneath the planar surface which provides for a break in the surface for the flow of cable being winched by said second winch.

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13. A method according to Claim 12 wherein the second winch is substituted with a reversible rotation motor and the cable forms a loop around the distal half of the planar surface so that the pushing bar may be withdrawn from a completely assembled door back to the distal end to enable the next top skin to be placed onto said distal planar surface.

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14. An apparatus for assembling a 2-piece skin door comprising a bottom skin and a top skin wherein each of the bottom and top skins' longitudinal edges have been bent and folded to mutually hem each other to form a door edge seam when slotted into one another, said apparatus including:

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- a planar surface area sufficient for laying each a bottom and a top skins longitudinally end to end, said surface comprising

25

- a proximal surface portion for laying the bottom skin in an upwardly open pan manner;

- a distal surface portion for laying the top skin in an inverted pan manner;

30

- fastening means for securely holding the bottom skin onto said proximal surface with its folded edges in alignment with the corresponding folded edges of the top skin;

means for moving the aligned top skin to insert said top skin's folded edge into the bottom skin's corresponding folded edge to form said door edge seam.

5 15. An apparatus according to Claim 14 wherein the fastening means comprises hook, cable and screw means to hold onto protrusions from the bottom skin.

10 16. An apparatus according to Claim 14 wherein the means for moving the top skin comprises at least a winch mounted below the proximal end of the planar surface and is capable of moving said top skin so that said top skin's folded edges may be received into the corresponding bottom skin's folded edges by winding a cable attached to a hook means fastened to a
15 protrusion from the proximal rail edge of said top skin.

17. An apparatus according to any one of Claims 14 and 16 wherein the protrusion comprises at least one plate welded onto the rail edge of the top skin to protrude therefrom.

20 18. An apparatus according to Claim 14 wherein the means for moving the top skin comprises at least a winch mounted below the proximal end of the planar surface and is capable of pushing the top skin so that said top skin's folded edges
25 maybe received into the corresponding bottom skin's folded edges by winding a cable attached to an end push bar to push the distal rail edge of said top skin.

30 19. An apparatus according to Claim 18 the planar surface is provided with an opening between the proximal and distal surface portions to allow for cables to be pulled by a winch mounted below the distal surface portion.

20. An apparatus according to Claim 19 wherein the proximal and distal surface portions are each detached bench surface portions.

5 21. An apparatus according to any one of Claims 14, 19 and 20 wherein the means for moving the top skin comprises the end push bar connected to an endless cable pulled by a reversible motor.

10 22. An apparatus according to any one of Claims 14 to 21 wherein guide means are provided to secure and align the bottom skin to receive the top skin and to guide the end push bar's movement.

15 23. A door assembled according to a method of any one of Claims 1 to 13.

24. A door assembled with an apparatus according to any one of Claims 14 to 22.

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